

Appl. No. 10/522,075
Amdt. dated November 29, 2010
Reply to office action of September 29, 2010

Amendments to the Drawings

The attached sheets reflect a minor modification to Fig. 1, showing that the steel plates 1 face the interior of—or inside—a vehicle to which they are attached. Protection plates 2 face the exterior of—or outside—a vehicle to which they are attached.

The attached sheets of drawings include a new Figure, designated as Fig. 5. This figure illustrates the inner layer and outer plate of the sandwich structure in relation to a vehicle.

Attachment: Replacement Sheets
Annotated Sheets Showing Changes

REMARKS/ARGUMENTS

Claims 1, 5 and 13, 17-18, 21 and 24-26 remain pending. Claims 27-31 were added.

Claims 2-4, 6-12, 14-16 were previously canceled. Claims 19-20, and 22-23 were canceled by this response.

Claim 1 was amended to better clarify the scope of the invention. No new matter has been added.

Rejections Under 35 USC 102/103

Claims 1, 13, 18, 21 and 24 are rejected under 35 USC §102(e) as being anticipated by US Patent 5,663,520 to Ladika (hereinafter “Ladika”). Claims 1, 5 and 13 were rejected under 35 USC §103(a) as being unpatentable over U.S. Patent 5,471,905 to Martin in view of Ladika.

Assignee respectfully submits that the references do not teach or suggest all claim limitations. Regarding the **outer** plate and the **inner** layer distinction, the office action provides at Page 3 §3 a., that US Patent 5,663,520 to Ladika teaches: “...an outer_plate (**114**)...and an inner layer made of a second hard material (**60**)...”. However, this cannot be the case since the projectile would have to be shot from inside the vehicle to outside in Ladika in order to this to be true. The “outer plate” of vehicle 20 is referenced **46, 44, 60** and the “inner layer” **48, 50, 114**, as illustrated fig.1 and confirmed col.4 lines 6-8 of Ladika. One significant aspect of these limitations is found in Assignee’s specification which provides at page 2, 1.17-20 as follows:*“The protection against projectile impacts from vehicles with low protection is usually placed inside the vehicle bodywork. The protection elements in the invention are placed outside the vehicle bodywork, contrary to this principle”*.

Moreover, the office action provides at page 9 that concerning the nomenclature of inner vs. outer plate, applicant claims a sandwich structure—not a combination where the sandwich structure is applied to something. Assignee has amended Claim 1 to show the sandwich structure is for protecting equipment having an inner space from a projectile coming from outside the equipment. Assignee respectfully submits that independent

Claim 1 now includes new underlined limitations for an outer plate having an outer side configured to face outside the equipment, the outer plate being configured to be attached to the equipment exterior, the outer plate being made of a first ductile material and designed to resist first impacts of projectiles and to absorb a part of the kinetic energy of the projectiles. Claim 1 also now includes a new limitation for an inner layer having an inner side configured to face inside the equipment. Assignee respectfully submits that any prior art applied against these claims must now include limitation for an article or equipment with an outer plate that attaches to equipment exterior and an inner layer having an inner side configured to face inside the equipment.

Moreover, the remaining independent claims are added independent claims 30 and 31. Claim 30 is directed to a vehicle comprising bodywork having an inner space to be protected by a sandwich structure from a projectile coming from outside the bodywork. The vehicle includes an outer plate having an outer side facing outside and an inner layer having an inner side facing the inner space. Likewise, Claim 31 is directed to equipment having an inner space to be protected by a sandwich structure from a projectile coming from outside the equipment. Accordingly, Assignee respectfully submits that the sandwich structure is configured to be applied to another object having an inner space facing inside and an outer space facing outside. The rejections under 102(e) and 103(a) have been overcome with respect to these claims and all remaining claims since they depend from these claims.

Secondly, Assignee respectfully submits that the prior art does not teach or suggest limitations for the *second material is harder and less ductile than the first material*: Ladika is a typical prior art device: "...*The protection against projectile impacts is placed inside the vehicle bodywork*. More specifically, Ladika discloses an outer plate 46, 44, 60 which is **not** made of a **ductile** material (steel armor plate as noted by the Examiner), and inner layer 48,114 which is **not** made of a material which is harder and less ductile than said ductile material (sheet metal as noted by the Examiner).

Further, reversing the arrangement in disposing the inner layer 114 outside (with reference to the inner space 30 defined by the passenger compartment) and the outer plate 46, 44, 60 inside, is prevented by the description of Ladika, since col.4 lines 6-8 specify that "the blast forces 34 are **received** by the shield structure 44 integrated on a... body

protective plate 46" and *transferred* to the inner structure (col.4 lines 11-61). If the claims are not deemed allowable after this action, Assignee respectfully requests that Examiner provide a reference to support this rejection, as provided in MPEP 2144.03.

Third, regarding the "fixing means for detachably fixing the outer plate to the inner layer at the location of the spacers": The office action provides, in connection with the 103 rejection based on Ladika at the bottom of page 5, that neither Martin or Ladika teach a detachable fixing means for detachably fixing the outer plate to the inner layer. The office action goes on to state that Ladika teaches "a datable [sic] fixing means (Fig. 8) in order to be able to replace just the broken plate or layer. It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Martin to use a detachable fixing means, such as taught by Ladika et al., in order to make repairs easier." If the claims are not deemed allowable after this action, Assignee respectfully requests that Examiner provide a reference to support this rejection, as provided in MPEP 2144.03.

Fourth, regarding the combination of Martin (the '905 Patent) and Ladika (the '520 Patent), there is no suggestion or motivation to combine the references to obtain the present invention. For example, Claim 5 of the instant pending claims requires that "the inner layer is made of steel and the outer plate is made of aluminum." Martin teaches away from the use of conventional "metallic materials," stating "this class of materials is often far heavier than desired and difficult to fabricate into intricate contours. Moreover, the weight of metallic materials has typically precluded its extensive use in such light-weight mobile weapons systems as helicopters and small water craft." (See Martin, '905 Patent, Background of the Invention.) As the office action notes, Ladika teaches use of sheet metal and steel armor, in contradiction to Martin.

Examiner Interview Summary

An examiner interview was conducted on or about November 19, 2010. No agreement was reached as to the claims. The participants were as follows: Elizabeth Plummer, Examiner, USPTO and Daphne Burton, Patent Attorney, Reg. No. 45,323, for Burton IP Law Group.

Various proposed amended claims were discussed. The Examiner recommended tying claim language for the sandwich structure to the equipment or bodywork that is to

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be protected from projectiles so that the inner versus outer distinctions were clearer.

Assignee believes it has done this. No agreement was reached regarding allowance of the proposed amended claims.

Conclusion

The undersigned respectfully submits that this application is in condition for allowance. Early and favorable reconsideration and allowance of this application is respectfully requested. If any outstanding issues might be resolved by an interview or an Examiner's amendment, the Examiner is invited to call the representative of the assignee of the entire interest of this application at the telephone number shown below.

This response is filed within two (2) months from the mailing date of the office action which has a shortened statutory period of response of three (3) months. Accordingly, Assignee believes no petition for extension of time is necessary. However, if any such petition is deemed necessary, this petition for extension of time under 37 C.F.R. 1.136 is also hereby made.

Respectfully submitted,

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